With the Medical Officer's Compliments.

THE  14th

ANNUAL REPORT

ON THE

Health & Sanitary Condition

OF THE

TOWN AND URBAN DISTRICT

OF

NEWQUAY,

FOR

1902,

BY

ARTHUR HARDWICK, M.D., D.P.H., R.C.P.S., Etc.,

MEDICAL OFFICER OF HEALTH.

Printed by Order of the Urban District Council.

ST. COLUMB:

ALFRED E. JULIAN, Printer and Stationer, Market Place.

Digitized by the Internet Archive
in 2018 with funding from
Wellcome Library

https://archive.org/details/b29908541

Newquay Urban District.

Area (old) ...	311 acres	Population—Census 1901	2935
„ (new) ... 1/4/902	592½ „	„ „	180
Extended Area, 1902	903½ „	„ „	3115

14th Annual Report

OF THE

Medical Officer of Health

FOR 1902.

To the Chairman and Members of the Newquay Urban District Council.

Gentlemen,

I beg to submit to you my Fourteenth Annual Report, on the Health and Sanitary condition of Newquay, during the year 1902.

The general health of the town has been exceedingly good, the death rate for the year, 13·5 per 1000, being below the average of the last 10 years, whilst the Zymotic Death Rate has been nil.

The District under your Council's control has been largely increased by the extension of the boundary, which came into operation this year, the area being practically trebled.

As regards matters reported upon last year, the improvement of the Main Drainage system at the western outlet has been completed in a satisfactory manner, and a Public Mortuary is in course of erection.

Of matters still requiring attention, the abatement of the Nuisance caused by the discharge of sewage into the Gannel Estuary is the most important, and I would press upon your Council the urgent necessity of immediate and decisive action in dealing with this question as a matter of Public Health, and one of vital importance to Newquay as a Health Resort.

Other recommendations which have not yet been carried out, are the improvement of the Hospital accommodation, the provision of an efficient Disinfecting apparatus, and the widening of the Main Street in narrow and dangerous situations.

I am, Gentlemen,

Your obedient servant,

ARTHUR HARDWICK,

Medical Officer of Health.

Feb. 1903.

Area and Population.

The extension of the district, proposed in 1901, having received the sanction of the Local Government Board, came into force on April 1st, 1902.

The old area was estimated at 311 acres, and the additional area to be included in the Urban District comprised 592½ acres, viz., from St. Columb Minor Parish, 213a., 2r., 15p., and from Crantock Parish, 378a., 3r., 29p. The total area of the New Urban District is therefore 903½a.

The population of Newquay, at the 1901 Census was 2,935, and of the area proposed to be included, 180, the total population of the extended area, at that date, being 3115. Allowing for a similar rate of increase as in previous years, the population at the middle of 1902, of the extended area, should be over 3,300, but various causes have probably operated to reduce this estimate, and I have therefore taken 3,250 to be the approximate population for statistical purposes.

The total number of inhabited houses at the end of the year was 815, unoccupied 13, and building 7.

The average number of persons per house was 4·5.

Mortality.

The total number of deaths registered was 46, viz., 18 males and 28 females. Estimating the population at 3,250, the resulting death rate is 14·1 per 1,000. Omitting 2 deaths of visitors, the death rate of the resident population only was 13·5 per 1,000.

The chief causes of death were as follows :—

Phthisis	3	Apoplexy	5
Cardiac Diseases ...	3	Senile Decay	6
Respiratory	7	Inquest Cases	5

All other Diseases ... 17

The ages at death were as follows :—

Under 1 year	7
1 and under 5	1
5 and under 15	1
15 and under 25	3
25 and under 65	14
65 and over	20

9 deaths occurred between 70 and 80, 8 between 80 and 90, and 1 death over 90, viz., at 93.

Infantile Mortality.

7 deaths occurred under 1 year, the infantile mortality, or proportion of deaths per 1,000 births being equal to 97·2 per 1,000.

Zymotic Death Rate.

The Zymotic death rate for the past year is nil, no deaths having been registered from Zymotic Disease, during the year.

Births.

72 births were registered, viz., 36 males and 36 females, equal to a birth-rate of 22·1 per 1,000.

The following table gives the number of births and birth-rates for the past 12 years.

Date.	Number of Births.	Birth Rate per 1,000.
1891	51	26·8
1892	55	28·3
1893	43	21·6
1894	41	20·
1895	36	17·
1896	59	26·8
1897	68	29·5
1898	48	19·8
1899	68	26·3
1900	68	24·6
1901	61	20·6
1902	72	22·1

Average for 12 years :—Births, 56, Birth-rate, 23·6.

Zymotic Diseases.

33 cases of infectious disease were notified during the year, the majority being cases of measles, as under.

Measles 23 Scarlet Fever 9 Diphtheria 1

Measles.

A slight outbreak of Measles occurred in April and May, about 15 cases being notified in these months, the remaining cases being notified at other periods.

The notification of the first case in April, was accompanied by the written recommendation of the Medical Practitioner in attendance that the case should be removed to the Isolation Hospital. I

found, on enquiry, that the patient was one of 9 children, in a small house, the house itself being in a very dirty state. The father gained his living by hawking fruit and sweets, and in one of the bedrooms a quantity of oranges was stored. As effective isolation appeared to be impracticable at home, I agreed with the recommendation, advising removal of the case to the Hospital, and a meeting of the Council as a Hospital Committee was called to consider the matter, as, under the Hospital Regulations, the Medical Officer has no power to send cases of Measles to the Hospital except under certain conditions, viz., "when considered advisable by the Medical Officer of Health *and* the Hospital Committee of the Council in the interests of the health of the town."

In the above case the Committee disagreed with the recommendation, advising removal to Hospital, and it was decided by the Committee that the case should be isolated at home, that a payment not exceeding 20/- a week should be paid to the Aunt of the patient, to nurse the case and abstain from other work elsewhere, the father also being prohibited from following his occupation during the illness of the child, and his stock of fruit and sweets being ordered to be destroyed, compensation to be paid him for the same.

It is only necessary to add that a second case was subsequently notified from the same family, and it was found quite impossible, in practice, to enforce the restrictions, as required by the Committee.

Scarlet Fever.

Nine cases of Scarlet Fever were notified during the year, of which 6 were removed to the Isolation Hospital, and 3 were isolated at their own homes.

In January, 1 case was notified, probably contracted at St. Austell.

April. 2 cases notified, shortly after a circus had visited the town, to which both children had been taken.

June. 4 cases notified, 3 of which arose from a case infected at Southampton, and the fourth from possible contact with one of these.

August. 1 case notified, a visitor, and probably imported.

December. 1 case notified, infection being traced to communication by letter, from an infected household.

In all cases, fumigation and disinfection of the rooms, etc., was carried out after the removal or convalescence of the patients.

Diphtheria.

1 case of Diphtheria was notified, which was isolated at home, and recovered. A case of Ulcerative Tonsillitis which ended fatally, occurred a few days previously in the same family, pointing to a common source of origin, but the actual source of infection could not be traced.

Isolation Hospital.

The Hospital was employed on three occasions during the year, for isolating cases of Scarlet Fever, being in use altogether for 17 weeks.

3 cases were admitted in April, the Hospital being opened on April 18th and closed on June 2nd, the patients being discharged.

The Hospital was again opened on June 28th, for the reception of 3 cases, and closed on August 1st. A few days later an application was made for the use of the Hospital for a private case (Scarlet Fever), which was granted by the Council, the Hospital being in use for 5 weeks, when it was finally closed (Sept. 6th).

The improved Hot Water Apparatus, which was recommended to be provided last year, was completed in February, and has proved satisfactory in every way.

During the year the Hospital has been visited and inspected 30 times, by myself, and during its occupation by patients, daily visits have been made by the Inspector or other employe of the Council.

The Hospital was thoroughly cleansed and disinfected after removal of the patients, and all clothing left by patients and unfit for further use, was destroyed.

A proper Disinfecting Apparatus is greatly needed, however, as bedding cannot be effectively dealt with by the ordinary methods of fumigation, etc.

Drainage and Sewage Disposal.

The extension and enlargement of the Main Drainage Outfall at the west end of the town, which was approved of and commenced last year, was completed early in the year, the work having been executed in a very satisfactory manner, and as a result, no further complaints have been received as to smells arising from the outfall at that end of the district.

As regards the Gannel Outfall, which, owing to the extension of the area of the town, now comes within your Council's District, I regret to have to report that nothing has been done to remedy the existing nuisance caused by deposit on the Gannel Banks, and that the practical solution of this much debated question, appears to be reserved for posterity in the distant future.

As reported in my last year's report, your Council having abandoned further consideration of the Septic Tank Scheme, instructed the Surveyor to survey, prepare plans and draw up a

report upon a fresh scheme of Drainage, the main object of which would be the diversion of the whole or greater part of the Gannel Sewage into the present main drain and western outfall.

In accordance with these instructions, your Surveyor prepared and presented two Schemes for your consideration, one, a comprehensive scheme, involving an expenditure of £5500, and which provided for a New Main Sewer which should deal with practically the whole of the drainage now passing into the Gannel, and another, a modified scheme, which would take a part only of this drainage, at a cost of £4200. It is unnecessary for me to burden my report with the details of these alternative schemes, seeing that both schemes having been submitted to the Local Government Board for selection and approval, and the L. G. Board having declined to adjudicate on the matter, your Council has not yet decided upon adopting either.

16 New Houses were connected with the Main Drainage during the year. The total amount spent on Drainage during the year was £148 11s. 2d., and on Sewage Disposal £208.

Housing of the Working Classes Act.

Under the above Act, 21 houses were inspected during the year. Two cottages in Beech Lane were reported as being without adequate water supply. 1 house in Broad Street as dirty and insanitary. In 1 house in Fore Street, the rain water pipes were defective, the closet without proper ventilation or lighting, and the back yard defectively drained, 1 house in Lansdowne Place, was reported as having dilapidated and defective outdoor Closet, roof leaking, and damp bedroom walls, and outside path improperly drained. 1 house in Crantock St., was reported as having damp insanitary cement flooring to living room. Notices were sent to owners in all these cases to have the defects reported, remedied.

Factory and Workshops Act, 1901.

Under Sec. 132 of the above Act, which came into force on January 1st, 1902, it is the duty of the Medical Officer of Health to deal specifically in his report with the administration of the Act in workshops and workplaces in his district.

(A) In accordance with the requirements of the Act, a Register of the workshops has been prepared by the Inspector of Nuisances, who has personally visited and inspected the whole of the premises coming within the operation of the Act. 41 premises have been placed on the register, viz. :—

Bakeries	3	Glazier	1
Baths	1	Laundry	1
Blacksmith	1	Plumbers	2
Cabinet Makers	1	Printers	2
Carpenters	10	Saddlers	2
Coach Builders	2	Stone Mason	1
Cycle Repairers ..	2	Tailors	5
Dressmakers	5	Watchmakers	2

(B) As regards Sanitation, very few defects have been reported. In no case has the air space in work-rooms been less than the statutory requirements. Ventilation has been generally good, and where defective, has been due rather to neglect of available means, windows, etc., than the absence of such.

In a few cases, greater care as to general cleanliness and removal of dust was required, and more frequent lime-washing of walls.

(C) Retail Bakehouses. These were found, in all cases, in sanitary condition, and to comply with the requirements of the Act.

(D) Closet accommodation was found to be defective or insufficient in a few cases, and notice has been given in such cases, for the same to be remedied.

(E) Safety from Fire. No workshops exist in the district, with more than 40 persons employed, necessitating special provision, under this clause.

(F) Home Work. No action has been taken or required under this clause.

During the past year, I have personally visited and inspected 25 of the premises on the Register.

Slaughter Houses, Cowsheds and Dairies.

No complaints have been received as to the above. They have been periodically inspected and found in good order.

Public Lavatories.

The Public Lavatories in Beach Lane, the Great Western Railway Station, and the lavatories and conveniences at the Board Schools have all been regularly inspected and found in good condition.

Water Supply.

No complaints have been received as to insufficiency of the town water supply, which has been abundant and of good quality throughout the year.

The number or houses now supplied by the Waterworks Company is 693, of which 32 have been newly connected this year.

Samples of the water have been sent for analysis, as usual.

Annexed is a copy of the Analytical Reports for April.

Chemical Laboratory and Assay Office,
30, St. Swithin's Lane, London,
24th April, 1902.

Sir,

I beg to state that I have analysed the samples of water received from you on the 21st inst., and find that they contain as under, viz. :—

	No. 1.	No. 2.
Chlorine	6·3	2·0 grains per gal.
Nitrogen (in Nitrates)	·315	trace „
Ammonia (free)	·0036	·0025 „

	No. 1.	No. 2.	
Ammonia, (albumenoid) ...	·0047	·0052	„
Oxygen absorbed from } in 15 min.	·005	·008	„
Permanganate at 80° F } in 4 hours	·014	·015	„
Total solid matters in solution	46·2	7·4	„
Solid matters reduced by ignition to	37·6	4·4	„
Poisonous Metals	none	none	„
Total Hardness	$14\frac{3}{4}$	$2\frac{1}{2}$ degrees	
Permanent Hardness	$7\frac{1}{4}$	—	
Appearance, in 2-feet tube ...	colourless clear	colourless slightly turbid	

The above data show the condition of these waters to be such as to render them well suited for drinking purposes.

(Signed) BENEDICT KITTO.

Public Mortuary.

The plans and estimates for the Public Mortuary having been sanctioned by the Local Government Board, the work of erecting the building in the New Cemetery grounds is now being proceeded with. The cost of the building is estimated at £80.

Reports, Etc.

Regular Monthly Reports have been made to your Council and also Monthly Returns of mortality and sickness have been sent to the County Council.

Weekly Returns of Notifiable Diseases have been forwarded to the Local Government Board.

No Special Report has been called for during the past year.

Tables I, II, III, and IV, of Vital Statistics are appended to my report.

Sanitary Inspector's Work.

1902.

Number of Houses Inspected during year under Housing of Working Classes Act		45
„	Complaints attended to	27
„	Houses newly connected with Main Drainage ...	16
„	„ newly supplied with Water	32
„	Certificates granted after Inspection	16
„	Nuisances abated	33
„	Samples of Water taken for Analysis	2
„	Defective House Drains Tested and put in order	6
„	Rooms Disinfected and Fumigated	12
„	Houses repaired and Limewashed	12
„	New Houses certificated for occupation	16
„	Plans presented for New Houses, &c.	34
„	Tons of House Refuse removed	1760

JOHN ENNOR, Junr.,

Inspector.

Causes of, and Ages at, Death during Year 1902.

Causes of Death.	Deaths in or belonging to whole District at Subjoined Ages.						
	All Ages.	Under 1 Year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.
Epidemic Influenza	1						1
Other Septic Diseases ...	1		1				
Phthisis	3				2	1	
Other Tubercular Diseases	1					1	
Cancer, Malignant Disease	1						1
Bronchitis	1	1					
Pneumonia	5	2				1	2
Pleurisy	1						1
Other Diseases of Respiratory Organs	1						1
Diseases and Accidents of Parturition	1					1	
Heart Diseases	3				1	1	1
Inquest Cases	5	1				3	1
Senile Decay	6						6
Cerebral Hæmorrhage ...	5					1	4
All Other Causes	11	3		1		5	2
All Causes	46	7	1	1	3	14	20

Vital Statistics of Whole District during 1902 and Previous Years.

Year.	Population estimated to Middle of each Year.	Births.		Total Deaths Registered in the District.			
				Under 1 Year of Age.		At all Ages.	
		Number.	Rate.	Number.	Rate per 1,000 Births registered.	Number.	Rate.
1	2	3	4	5	6	7	8
1892.	1940	55	28·3	2	36·3	31	15·9
1893.	1990	43	21·6	10	232·5	40	20·1
1894.	2050	41	20·	0	0·0	23	11·2
1895.	2120	36	17·	6	166·6	32	15·1
1896.	2200	59	26·8	5	84·7	38	17·2
1897.	2300	68	29·5	9	132·3	25	10·8
1898.	2420	48	19·8	8	166·6	40	16·5
1899.	2580	68	26·3	7	103·0	35	13·5
1900.	2760	68	24·6	5	73·5	27	9·7
1901.	2950	61	20·6	7	114·7	41	13·9
Averages for years 1892-1901.		55	23·5	6	111·	33	14·4
1902.	3250	72	22·1	7	97·2	46	14·1

Area of District in acres (exclusive of area covered by water) { 311 acres old area. / 592½ additional area, April, 1902. / 903½ new area

Number of inhabited houses, Census 1901. { 653 old area / 46 additional area / 699 new area

Total population at all ages, { 2935 old area. / 180 extended area. / 3115 } At Census of 1901.

Average number of persons per house-4·4.

NOTICE.

The Newquay Urban Sanitary Authority calls the attention of the Inhabitants of Newquay and the Public to the following Extracts from Acts of Parliament.

THE PUBLIC HEALTH ACT, 1875.

Sect. 126. Any person who—

(1.) While suffering from any dangerous infectious disorder wilfully exposes himself, without proper precautions against spreading the said disorder, in any street, public place, shop, inn, or public conveyance, or enters any public conveyance without previously notifying to the owner, conductor, or driver thereof, that he is so suffering; *or*

(2.) Being in charge of any person so suffering, so exposes such sufferer; *or*

(3.) Gives, lends, sells, transmits, or exposes, without previous disinfection, any bedding, clothing, rags, or other things, which have been exposed to infection from any such disorder,

shall be liable to a penalty not exceeding Five Pounds.

Sect. 128. Any person who knowingly lets for Hire any house, room or part of a house, in which any person has been suffering from any dangerous infectious disorder, without having such house, room, or part of a house, and articles therein liable to retain infection, disinfected to the satisfaction of a legally qualified Medical Practitioner, as testified by a certificate signed by him, **shall be liable to a penalty not exceeding Twenty Pounds.**

Sect. 129. Any person letting for hire, or showing for the purpose of letting for hire, any house or part of a house, who on being questioned by any person negotiating for the hire of such house, or part of a house as to the fact of their being, or within six weeks previously having been therein, any person suffering from any dangerous infectious disorder, knowingly makes a false answer to such question, **shall be liable to a penalty not exceeding Twenty Pounds, or to One Month's Imprisonment, with or without Hard Labour.**

THE INFECTIOUS DISEASE (PREVENTION) ACT, 1890.

Sect. 7. Every person who shall cease to occupy any house, room, or part of a house in which any person has within six weeks previously been suffering from an infectious disease without having such house, room, or part of a house, and all articles therein liable to retain infection, disinfected to the satisfaction of a registered Medical Practitioner, as testified by a certificate signed by him, or without first giving to the owner of such house, room, or part of a house, notice of the previous existence of such disease, and every person ceasing to occupy any house, room, or part of a house, and who on being questioned by the owner thereof, or by any person negotiating for the hire of such house, room, or part of a house, as to the fact of their having within six weeks previously been therein any person suffering from any infectious disease, knowingly makes a false answer to such question, **shall be liable to a penalty not exceeding Ten Pounds.**

Sect. 13. Any person who shall knowingly cast, or cause, or permit to be cast, into any ash-pit, ash-tub, or other receptacle for the deposit of refuse matter, any infectious rubbish, without previous disinfection, **shall be guilty of an offence under this Act.**

THE INFECTIOUS DISEASE NOTIFICATION ACT, 1889.

Where an inmate of any building used for human habitation is suffering from an infectious disease—

(1.) The head of the family to which such inmate (hereinafter called the patient) belongs, *and in his default*,

(2.) The nearest relatives of the patient present in the building, or being in attendance on the patient, *and in default of such relatives*,

(3.) Every person in charge of, or in attendance on the patient *and in default of any such person*,

(4.) The occupier of the building,

shall, as soon as he becomes aware that the patient is suffering from any infectious disease, send notice thereof to me, the undersigned (Arthur Hardwick, Island House, Newquay), the Medical Officer of Health for the above-named Sanitary Authority. **Penalty** for failing, when required to give notice as above, **not exceeding Two Pounds.**

INFECTIOUS DISEASE.

This term includes—Smallpox, Cholera, Diphtheria, Membranous Croup, Erysipelas, Scarlatina, Scarlet Fever, Measles, and any of the following Fevers—Typhus, Typhoid, Enteric, Relapsing, Continued, or Puerperal.

(*Signed*)

ARTHUR HARDWICK, M.D.,

Medical Officer of Health.

Newquay Urban District Council.

HOSPITAL COMMITTEE REPORT.

At a Meeting of the Hospital Committee held on November 30th, the following Resolutions were agreed to, and recommended for adoption by the District Council :—

1.—That the following Infectious Diseases be admitted, viz :—Scarlet Fever. Small Pox, Diphtheria, and (*under certain conditions*) Typhoid Fever, and Measles.

2.—That in the case of Patients removed compulsorily by order of the Medical Officer of Health, or Council, under the P. H. Acts, all expenses, including Medical attendance, shall be borne by the Council.

3.—That in the case of Patients recommended to be removed, and willing to be removed, but having home accommodation for Isolation, such charges shall be made as the Council shall deem fit.

4.—Private Patients applying for the use of the Hospital shall be granted its free use *under certain regulations*, and on giving a written guarantee to pay all expenses.

5.—Patients removed compulsorily, under the Public Health Act, shall be attended by the Medical Officer of Health. All other cases admitted, may, if they wish, be attended by their own Medical attendant, at their own expense.

6.—That in all cases, sent to the Hospital compulsorily, and in cases unable to provide Medical Attendance, the Medical Officer of Health shall attend and be paid for such Medical Attendance at the rate of £3 3s. per case by the District Council.

7.—That a nurse shall be provided in all cases, who shall be under the control of the Medical Officer of Health, and such charges shall be made for her services as the Council may deem fit.

8.—MANAGEMENT AND ACCOMMODATION OF HOSPITAL:

(*a*) The Management shall be vested in the Committee and Medical Officer of Health.

(*b*) The Medical Officer of Health shall have sole control during the occupation of the Hospital by Patients.

(*c*) No persons other than the Nurse, Carctakers, and Medical Attendants, shall be allowed in the Hospital or Grounds during occupation by Patients, except by consent of the Medical Officer of Health

(*d*) All orders for goods, food, etc., must be by written order with counter-foil, and signed either by the Nurse in charge, or Medical Officer of Health, except in the case of private paying patients, who must order and pay for their own goods.

9.—FIRING AND LIGHTING.

In cases of paying patients, firing and lighting should be included in the free use of Hospital.

10.—It is strongly recommended that a small Cottage be built for a man and wife, who would act as carctakers, so that the Hospital may be kept permanently ready for immediate use.

11.—It is also recommended that a Boundary Wall or sufficient fence should be erected in place of the present temporary wire railing.

12.—Also that a suitable covered carriage be immediately obtained as an ambulance, and a shed be built on the Hospital grounds for its care.

13.—ADDENDA.—Rule 1, "under certain conditions," as under :

(*a*) When considered advisable by the Medical Officer of Health in the interests of the health of the town.

(*b*) By request of visitors, or other persons willing to pay for all expenses, and provided that the accommodation is not used or required for other cases ; and that the Medical Officer of Health approves.

Rule 4, "under certain regulations," :

(*a*) The above regulations under Rule 1 shall apply.

(*b*) Private patients shall agree to submit to such rules and restrictions, applicable to their special cases, as the Medical Officer of Health may consider necessary.

Newquay Climatological Station.

Lat. 50° 25′ N. Long. 5° 5′ W.

ANNUAL REPORT

OF

METEOROLOGICAL OBSERVATIONS for 1902.

To the Newquay Urban District Council.

Gentlemen,

I beg to place before you the records of the Daily Climatological Observations for the past year, together with the mean results for the past 10 years.

The Mean Temperatures have been slightly lower than the average.

The Total Rainfall 27·64 inches, is considerably below the mean, and is also the lowest rainfall recorded for the past 10 years.

The Sunshine is also considerably less than in previous years, and is the lowest recorded since the Instrument has been in use. There is reason to suppose however that this has been partly due to defects in the Sunshine Recorder, and partly to wilful tampering with the instrument. To prevent the latter, the Recorder has been protected by a wooden fence and padlocked gate, and the defects in the instrument have been reported to the Meteorological Office.

With the conclusion of the past year's observations a complete series of 10 years daily records have now been obtained, and a permament and accurate record established, which will not only be of value, as affording indisputable proof of the mildness and equability of the Climate of Newquay, but will also serve as the basis for future observations and for comparison with the statistics of other Home and Foreign Health Resorts.

The most striking feature of the 10 years records as shown in the Table of Meteorological Means and Totals is the remarkably low mean range recorded year by year, and also month by month in the Table of Comparative Statistics of Foreign Health Resorts.

No other evidence than this is needed, to prove the extreme equability of the climate of Newquay, a characteristic which is of far greater importance, for invalids, than a few degrees higher or lower, of actual mean temperature. Other important features, are the large amount of mean daily sunshine, the comparatively small annual rainfall, and the high mean winter temperature, all matters of the greatest import to the Invalid, or those in search of a mild and sunny winter residence.

In concluding my report, I regret that the increasing pressure of private and public professional work, and the additional duties which have been imposed on me, as Medical Officer of Health, have compelled me to resign the work of continuing the daily observations for the future.

I am, Gentlemen,

Yours faithfully,

Feb. 1903. ARTHUR HARDWICK.

NEWQUAY CLIMATOLOGICAL STATION. LAT. 50° 25′ N. LON. 5° 5′ W.

SHADE TEMPERATURES (Stevenson Screen).

AT 9 A.M. (LOCAL TIME).

1902.	Maximum *mean.*	Minimum *mean.*	*Mean of* Max. and Min.	*Mean* Range.	Highest.	Date.	Lowest.	Date.	Dry Bulb. *mean.*	Wet Bulb. *mean.*	*Mean* Relative Humidity.	*Mean* Cloud.
January	48·6	42·4	45·6	6·6	52·8	1st	30·9	11th	45·5	43·1	82	7·
February ...	44·5	35·5	40·	9·	54·9	24th	27·	10th and 11th	40·	38·6	88	6·
March	50·2	43·1	46·6	7·1	52·6	1st	35·1	6th	47·	45·8	91	7·5
April	52·5	42.0	47·2	10·5	58·	24th	35·4	9th	48·5	46·1	82	6·5
May	53·	45·6	49·3	7·4	58·9	31st	37·7	11th	50·	48·3	88	7·
June.....	60·4	52·	56·2	8·4	79·3	28th	46·1	11th	57·1	54·3	83	7·
July	63·	54·3	58·7	8·8	70·2	13th	44·9	12th	59·9	57·3	84	6·
August	64·8	55·5	60·1	9·3	76·1	21st	49·3	26th and 27th	61·5	58·5	82	6·
September ...	62·9	52·9	57·9	10·	70·1	8th	43·7	19th	59·6	58·4	92	5·
October	56·9	49·1	53·	7·8	60·4	12th	37·9	4th	54·1	52·8	93	7·
November ...	53·	45·2	49·1	7·8	59·1	5th	29·	19th	50·	48·1	87	7·5
December ...	47·7	41·3	44·5	6·4	55·	14th	27·1	7th	44·9	43·4	88	7·5
	54·8	46·6	50·7	8·2	79·3	June 28th	27·0	Feb. 10th & 11th	51·5	49·5	86	6·6

MEAN WINTER AND SUMMER TEMPERATURES.

AVERAGE OF 10 YEARS, 1893-1902.

		Temperatures—9 a.m.			Mean Maximum	Mean Minimum	Mean Range	Mean of Max and Min.	Mean Daily Sunshine	Mean Rainfall
		Dry Bulb	Wet Bulb	Humidity						
										INCHES.
Winter Months.	October to March.	47·3	45·2	86	50·5	42·5	8.0	46·5	3 hours	20·76
Summer Months.	April to Sept.	57·8	55·0	82	61·5	51·8	9·5	56·6	7 hours	12·69

METEOROLOGICAL MEANS AND TOTALS.

10 YEARS, 1893-1902.

Year.	Means 9 a.m.			Temperatures.							Mean Cloud 0-10.	Total Rainfall Inches.	Total Hours Bright Sunshine.	Mean Barometer Inches.
	Temperatures.		Humidity	Means.				Extremes.						
	Dry Bulb	Wet Bulb		Max.	Min.	Range	Mean	Max.	Min.	Range				
1893	53·5	50·7	81	57·2	47·6	9·6	52·4	82·6	23·	59·6	6·3	29·60	2020	29·95
1894	52·3	50·3	86	55·4	47·	8·4	51·2	76·8	19·2	57·6	6·5	39·87	1755	29·91
1895	51·4	48·9	83	54·8	45·3	9·5	50·	82·9	19·	63·9	6·2	35·42	1896	29·91
1896	52·7	50·3	84	55·6	47·3	8·3	51·4	80·	28·8	51·2	6·4	29·11	1791	30·03
1897	52·8	50·4	84	56·	47·9	8·1	51·9	77·6	27·9	49·7	6·4	39·80	1645	29·94
1898	53·6	51·	86	56.7	48·7	8·	52·7	79·	32·9	46·1	6·5	27·83	1742	29·99
1899	53·6	51·1	84	57·3	48·1	9·2	52·7	82·5	28·	54·5	6·	34·78	1900	30·01
1900	52·6	50·3	85	55·8	47·2	8·6	51·5	76·9	26·7	50·2	6·3	40·26	1724	29·91
1901	51·9	49·5	83	55·6	46·5	9·0	51·0	81·3	25·6	55·7	6·3	30·34	1696	29·90
1902	51·5	49·5	86	54·8	46·6	8·2	50·7	79·3	27·	52·3	6·6	27·64	1460	29·94
Mean 10 years	52·6	50·2	84	55·9	47·2	8·7	51·5				6·3	33·46	Daily av. 4·8 hours	29·95

Mean Monthly Temperatures, etc.

Averages of 10 Years, 1893-1902.

Month.	9 a.m. Mean Dry Bulb.	9 a.m. Mean Wet Bulb.	9 a.m. Mean Humidity	Mean Maximum.	Mean Minimum.	Mean Range.	Mean of Max. & Min.	Mean Cloud.	Mean Rainfall.	Mean hours of Sunshine.
January	43·9	42·1	86	47·1	40·1	7·0	43·6	7.0	3·53	59·0
February	43·5	40·6	86	46·9	38·9	8·0	42·9	6·6	2·62	85·6
March	46·1	44·2	86	49·3	40·8	8·6	45·1	6·5	2·20	141·5
April	50·0	47·7	84	54·5	44·3	9·2	48·9	6·2	2·24	177·5
May	53·3	50·7	83	56·8	47·2	9·6	52·0	5·5	1·43	247·1
June	59·1	55·9	81	62·8	53·0	9·8	57·8	5·9	1·76	223·4
July	61·9	59·2	83	65·1	56·3	9·0	60·6	6·3	2·07	215·0
August	62·6	59·5	82	66·0	56·6	9·4	61·3	6·0	2·36	212·3
September	60·3	57·2	81	63·7	53·9	9·8	58·8	5·8	2·83	169·2
October	54·2	51·8	84	57·2	48·8	8·4	53·0	6·7	3·79	109·3
November	49·4	47·4	85	52·7	44·3	8·4	48·5	6·4	3·73	76·5
December	46·8	45·2	88	50·1	42·5	7·6	46·3	7·4	4·89	46·6

RAINFALL 1902.

Month.	Total Fall Inches.	Difference from Average (10 years).	No. of days on which rain fell 0·01 in. and over	Mean Rate of Wet day's fall.	Greatest Fall in 24 hours.	Date of Greatest Fall.
					INCHES.	
January	1·56	—1·97	14	0·11	0·38	26th
February	1·63	—0·99	12	0·14	0·45	26th
March	2·33	+0·13	21	0·11	0·55	26th
April	1·80	—0·44	6	0·30	0·84	21st
May	1·27	—0·16	14	0·09	0·21	16th
June	1·71	—0·05	15	0·11	0·36	12th
July	0·99	—1·08	9	0·11	0·48	19th
August	2·31	—0·05	14	0·16	1·16	17th
September ...	4·04	+1·21	13	0·31	1·85	22nd
October	2·95	—0·84	18	0·16	0·63	9th
November ...	5·09	+1·36	18	0·28	0·80	27th
December ...	1·96	—2·93	17	0·12	0·45	28th
Total Averages	27·64	—5·82	171	0·16	1·85	Sept. 22nd

RAINFALL 10 YEARS, 1893=1902.

Year.	Total Fall Inches.	Total No. of Rainy Days, 0·01 in. and over.	Mean Rate of Fall for Rainy Days.	Greatest Fall in 24 house.	Date of Greatest Fall.
				INCHES.	
1893	29·6	175	0·17	1·24	July 4th
1894	39·9	216	0·18	2·13	November 11th
1895	35·4	186	0·19	1·19	October 8th
1896	29·1	189	0·15	1·05	September 21st
1897	39·8	194	0·20	1·21	September 30th
1898	27·8	178	0·16	1·35	November 27th
1899	34·8	176	0·19	1·23	Feb. 5th & Sep. 29th
1900	40·3	207	0·19	1·29	February 14th
1901	30·3	175	0·17	1·39	January 18th
1902	27·6	171	0·17		
Average for 10 years	33·5	186	0·17	2·13	11th November, 1894

N.B.—The Rainfall is registered by a Snowdon Rain Gauge, 5 inches in diameter, placed 1 foot above the ground, and 100 above sea-level.

Bright Sunshine, 1902.

1902.	Total Possible Sunshine.	Actual Sunshine.	Percentage of Possible.	Average daily Amount.	Greatest daily Amount.	Date of Max. Record.	No. of days of Bright Sunshine.	Sunless Days.
	HOURS.			HOURS.	H. M.			
January	260	36·2	13·9	1·17	7 30	29th & 30th	14	17
February	276	83·9	30·4	2·99	7 54	10th	16	12
March	364	98·7	27·1	3·18	9 24	5th & 6th	20	11
April	410	145·8	35·5	4·86	13 0	28th	26	4
May	475	193·9	40·8	6·25	12 48	27th	27	4
June	486	147·6	30·4	4·92	14 18	28th	23	7
July	487	209.8	43·0	6·77	14 30	18th	29	2
August	443	185·1	41·7	6·00	12 33	9th	30	1
September	373	192·4	51·5	6·41	11 30	5th	27	3
October	327	69·2	21·1	2·23	7 54	14th	19	12
November	264	61·6	23·3	2·05	7 12	12th	22	8
December	241	35·3	14·6	1·14	6 42	5th	15	16
Year.	4406·0	1459 5	33·1	4·0	14 30	July 18th	268	97

Comparative Statistics between Newquay and Foreign Health Resorts.

I.—MEAN TEMPERATURE.

Place.	Latitude	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year	Diff. of hottest and coldest month.
Newquay ...	50° 25′	43·6	42·9	45·1	48·9	52·	57·8	60·6	61·3	58.8	53.0	48·5	46·3	51·3	18·4
Nice (Obs.) ...	43° 43′	42·4	43·9	47·5	53·1	58·8	66·2	70·3	69·8	65·8	57·9	50·4	44·6	55·8	27·9
Montpellier...	43° 37′	40·3	42·8	48·6	55	61·7	69·1	73	71·6	66·2	56·5	50·4	42·1	56.5	32·7
Algiers ...	36° 47′	53·4	55	57·9	61·3	65.5	71·8	77·2	76·6	74·8	68·4	62·2	56·3	64·9	23·8
Madeira ...	32° 38′	59·9	58·8	59·7	61·2	63·7	67·3	70·7	72·1	71·4	68·4	64·6	60·8	64·9	13·3

II.—MEAN DAILY RANGE OF TEMPERATURE.

Place	Latitude	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year	Diff. of greatest and least range.
Newquay ...	50° 25′	7·0	8·0	8·6	9·2	9·6	9·8	9·	9·4	9·8	8·4	8.4	7·6	8·7	2·8
Nice (Obs). ..	43° 43′	12·8	14·4	15·5	16·7	16·2	17·1	18·9	18·3	17·3	14·4	12·6	12·6	15·5	6·3
Montpellier...	43″ 37′	17·1	21·2	22·5	24·	24·6	26·	26·7	27·	25·9	21·6	17·7	18·2	22·7	9·9
Algiers ...	36° 47′	12·4	13·	13·3	13·5	13·7	14·6	15·1	13·9	13·5	13·7	12·6	11·8	13·4	3·4
Maderia ...	32° 38′	11·9	12·6	12·1	12·	11·7	11·5	11·3	11·9	12·1	12·	12·6	12·4	12·	1·3

N.B.—Nice, Montpellier and Algiers means for 10 years, 1888-1897. Madeira (Funchal) 10 years 1881-1890. Newquay, 10 years, 1893-1902.